

# Locusts threaten Africa with famine

by Marjorie Mazel Hecht

Just as certainly as the United Nations Food and Agriculture Organization has predicted the movements of the desert locusts through northern and Sahelian Africa, one can predict that the FAO's current control measures will fail to stop the plague. Right now, as the map indicates, swarms have moved south from northern Africa to the Sahel, where further breeding is going on and new generations of locusts are expected to swarm out of the area in the next two months.

The FAO reports, based on analyses from past plagues, show almost exactly where the breeding takes place and where the prevailing winds will carry new swarms. If the weather remains favorable to the locusts—adequate rainfall and temperature for the millions of eggs to hatch—there is no doubt that a plague of enormous magnitude threatens to devastate the food crops and the grazing lands of the Sahel and West Africa this fall, and probably threaten the food supplies of the Mideast, Pakistan, and India.

More than 500 million human beings are threatened with famine by the "desert locust" spread, reported France's *Le Monde* on March 28. To judge the potential impact, consider that a 1 kilometer square swarm can contain as many as 50 million insects, weighing 1,000 tons, and capable of eating its own weight in fresh vegetation every day.

Despite its dire warnings of the plague and consequent famine, however, the FAO's anti-locust efforts are bound to fail, because that organization and other international organizations like the World Bank have already written off the population of Africa. These agencies have determined that Africa is "overpopulated," and that the so-called carrying capacity of the continent has reached its limits. There is no other way to explain why a full-scale war mobilization was not mounted last year and is not planned this year to *eradicate*, not just slow the locust plague. Today, the technology exists to do the job; what is missing is the political will.

## A crash program to stop the plague

The technologies to stop the locust plague are mostly state-of-the-art measures, many known for the past 30 years.

One of the first steps is to resuscitate the regional locust control groups that were functioning throughout Africa until the last decade, giving them adequate funding and equipment to monitor and prevent locust breeding. This means training new personnel and supplying the necessary small planes, helicopters, ground transportation, and good radio communications. These previously successful organizations have

been starved out of existence by budget cutting.

Satellite remote sensing, supplied through the U.S. National Oceanographic and Atmospheric Administration's meteorological polar-orbiting satellite, already provides bi-weekly "greenness" maps that show where the environmental conditions—rainfall—are favorable for locust breeding, egg survival and hatching, and swarm formation.

Once these broad-scale maps are in hand, they can be supplemented by color infrared photography from aircraft, which can produce a resolution of 6 inches, compared to the 200-foot resolution of satellites. This enables very targeted spraying of young hoppers.

Pesticides can be sprayed in a fine, ultra low-volume mist, killing the young locusts on contact without harming man or animals, and with a kill rate of 95% or more. In the vast breeding areas of the Sahel, the longer-lasting pesticide dieldrin could be sprayed in this manner, ensuring that newly hatched hoppers would be killed whenever they hatched, over as long as a three-month period.

To carry out the spraying, a mix of vehicles is necessary, depending on the terrain. Large planes—DC-7s or C-130s that are specially outfitted for pesticide work—can spray a vast area quickly: 1,000 miles per sortie, flying at 200 miles per hour and cutting a swath 660 feet wide. At an altitude of 200 feet, the big planes go in 60-mile runs up and down the infested area. For smaller areas, small planes and helicopters can be used, and in some cases, hand-held sprayers are necessary on the ground. For mature swarms, aerial spraying methods can be used. More effective, however, will be the use of new electromagnetic measures that have been laboratory-tested, but not field-tested. This involves helicopters equipped with low-cost electromagnetic generators that emit specially tuned microwave pulses that can zap an entire swarm in just two to three minutes.

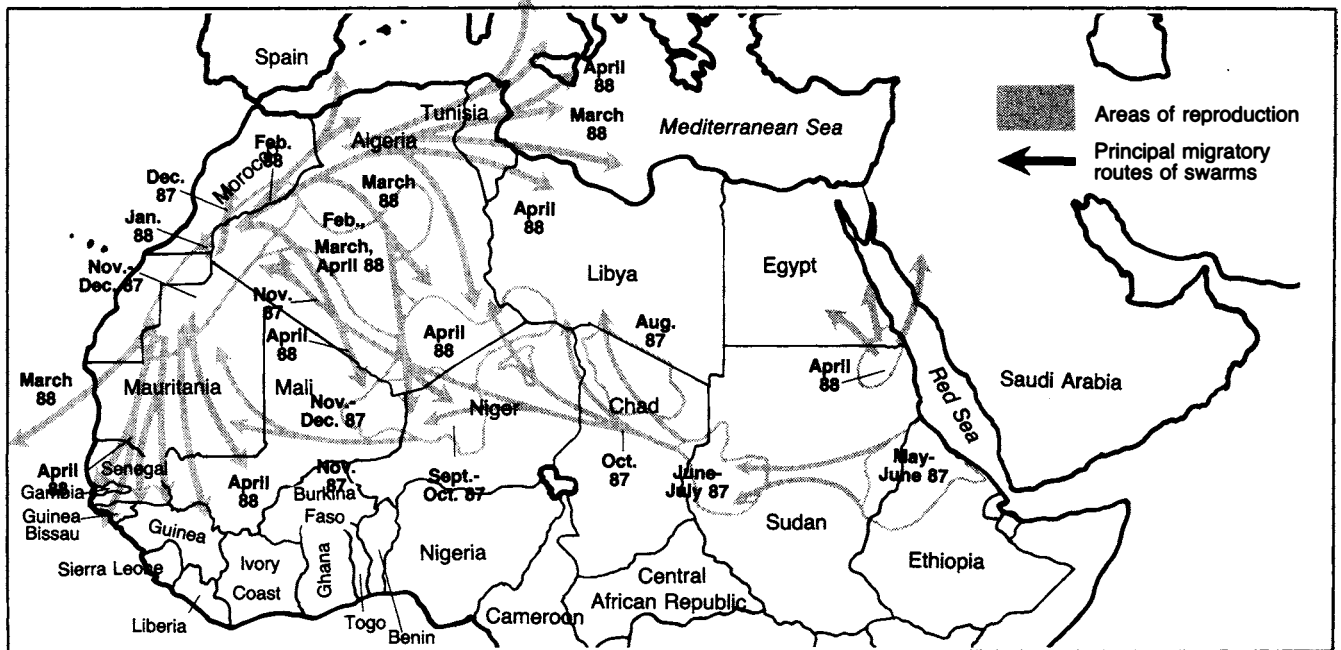
Finally, and most basic to a successful anti-locust campaign, is the question of development. The big infrastructure projects required to reduce the endemic locust-breeding areas in Africa have been discussed for years. For example, in the 1970s, there were proposals to control the flooding from the Niger River in Mali, thus eliminating the existing flood plains where the African migratory locust is able to breed for most of the year. Also, simply cultivating more land using higher-technology agriculture would contribute to the ability to control breeding.

## Myth of 'protecting' the environment

To carry out a successful war mobilization against the locust, however, requires the decisive defeat of the Malthusians, who would be happy to have the continent of Africa as a wildlife preserve, devoid of people.

While the lives of 580 million people are at stake, the primary concern of the FAO as well as U.S. agencies involved is not to stop the locusts and save human lives, but to protect "the environment." For example, dieldrin, a very

## The desert locust invasion, 1987-88



*Uncontrolled swarms from the 1987 breeding areas in Ethiopia, Sudan, Chad, Niger, Mali, and Mauritania spread to northern Africa in early 1988. Despite control efforts in Morocco, Algeria, and Tunisia, significant numbers of locusts reproduced, damaged crops and vegetation, and swarmed out of the area, some heading north to southern Europe in March and April and others moving south to reinfest the Sahel. In addition, locust swarms from the Sudan spread into Egypt and across the Red Sea to Saudi Arabia. If there is no war mobilization to stop the plague now, and if the weather continues to favor the locust breeding, vast new swarms of locusts will be ready to wipe out the crops of the Sahel and West Africa in September-November 1988. And the devastation will continue, as swarms spread to East Africa, the Mideast, Pakistan, and India. This map is adapted from one produced by the French organization Prifas in April 1988, using data compiled by the United Nations Food and Agriculture Organization.*

effective pesticide because it is long lasting, is not being used in Africa, because the United States banned its use here in 1974. In the current plague situation, even one or two sprayings of dieldrin on millions of acres at the level required—about one-tenth of an ounce per acre—would still not exceed the existing U.S. standards for dieldrin in drinking water.

The same type of environmentalist argument is given by the FAO officials at the Emergency Center for Locust Operations: Widescale spraying would damage the environment by killing off the natural predators of the locusts as well as other insects, they say. This is a crucial point, because it is for this reason that the FAO locust program refused to spray the vast grassland areas where the locusts were breeding in 1986 and 1987. Where did the 1988 desert locust swarms come from? They came from those areas (see map) where the FAO and other agencies involved refused to spray last year.

That such widescale spraying would damage the environment is a myth. In a plague situation, one does not worry about killing off the natural predators of the locusts; the minimal mortality they cause the locust is inconsequential. Within a year, these parasites and any other organisms killed

by the pesticide will repopulate anyway.

This year, the problem will be magnified 10-fold or more, as the current Sahelian breeding areas go unsprayed and new generations, 10 times the size of their parent generations, hatch, mature, and swarm out in search of vegetation.

In an interview July 8, the second-in-command at the FAO locust center, Jeremy Roffey, reiterated this no-spray policy. Roffey confirmed that there are breeding locusts, young hoppers, and even mature swarms now in Mali, Chad, Mauritania, and western Sudan. When asked whether the FAO planned to spray now on a wide scale, Roffey said, "No. The pesticides that are used are not just suitable for locusts; they also affect other organisms. . . . You don't spray broad-spectrum pesticides throughout the Sahel. You have to wait until the populations are grouped into reasonable-size targets. And, I should say that the cost of the pesticide in these applications is now running something up to \$20 a hectare, and we're talking about millions of hectares, so this becomes a very expensive operation. We have to be selective. I think we all agree that it's not going to be solved this year."